

REMARKS

Claims 1-8 are pending in the above-identified application. Claim 1 is independent. Claim 8 has been added.

Claim Rejections - 35 U.S.C. 103

Claims 1 and 2 have been rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's own admitted prior art, figures 10-13 and description thereof (hereinafter "AAPA") in view of Kanda et al. (U.S. Patent 5,630,226, hereinafter Kanda). Applicant respectfully traverses this rejection.

Claim 1 is directed to a satellite broadcast receiving device, comprising a chassis made of metal having opposing first and second planes, a first printed circuit board attached to the first plane, a first local oscillation circuit provided on the first printed circuit board, a second printed circuit board attached to the second plane, and a second local oscillation circuit provided on the second printed circuit board, said second local oscillation circuit being shielded by the metal chassis to be separated from the first local oscillation circuit.

The Office Action alleges that the AAPA teaches the claimed invention except for where part of the chassis forms the grounding planes. Instead, the Office Action relies on Kanda for teaching the deficiency. In particular, the Office Action alleges that Kanda's figure 1 showing two circuit boards 37 and 37a located on opposing ground

planes of the chassis 39 teaches the claimed chassis forming the grounding planes. As a motivation to combine Kanda and the AAPA, the Office Action states that, "it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed the first and second oscillation circuits with respective circuit boards on either side of a portion of the chassis serving as two ground planes in the device AAPA figure 10 as taught by Kanda because such a modification would have advantageously reduced the size of the receiving device." Applicant disagrees.

In the AAPA shown in Figure 10, separating boards 234 and 236 by sheet metal 246 was found to be ineffective in preventing a spurious signal from being generated (Specification, page 2, lines 18-26). In other words, the problem being solved in the present invention is prevention of a spurious signal from being generated. In order to solve this problem, Applicant provides a receiving device that shields the oscillation circuits by a metal chassis sufficient to eliminate or reduce the spurious signal generated by the local oscillation circuits (page 4, lines 3-9).

As disclosed in the present application, the conventional configuration having circuit boards separated by sheet metal had a thickness of about 2mm. The chassis portion of the present invention was formed to a thickness of approximately 7mm in order to achieve reduction in spurious noise (Specification, page 6, lines 15-19). In other words, the thickness of a separating portion was increased.

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As disclosed in the present application, the conventional configuration having circuit boards separated by sheet metal had a thickness of about 2mm. The chassis portion of the present invention was formed to a thickness of approximately 7mm in order to achieve reduction in spurious noise (Specification, page 6, lines 15-19). In other words, the thickness of a separating portion was increased.

It is a well established principle that one may add to the sum of useful knowledge by uncovering the nonobvious source of a problem and in devising a solution which, though involving a combination of old elements obvious after the source of the problem is isolated, has never before occurred to those skilled in the art. Eibel Process Corp. v. Minnesota & Ontario Paper Co., 261 U.S. 45 (1923);

Kanda is concerned with reduction in the size of the case body 31
and not concerned with elimination of spurious signals. The present
invention solves a problem of a spurious signal. Thus, Applicant submits
that one of ordinary skill would not look to Kanda for solving the problem
addressed by the present invention.

Therefore, Applicant submits that it would not be obvious to one of ordinary skill in the art to combine the teachings of Kanda with the AAPA. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

With respect to the dependent claims, at least for the reasons set forth above for claim 1, Applicant submits that claims 2-7 are not obvious as well.

Amendments to the Specification

Amendments have been made to the specification in order to correct a translation error in the word "flame". Support for this correction is based on the structure in the drawings. Applicant submits that no new matter has been added.

New Claim

New claim 8 has been added to recite the length of the contact pin. A problem with previously known contact pins has been that they protrude by such an extent that the circuit becomes susceptible to the radio wave and causes a spurious signal to occur (Specification: page 3, lines 16-19). Saitoh is silent with respect to the length of the contact rods 23 and 24. The pins in the present invention have a length set such that the length protruding from the board can be reduced (Specification, page 8, lines 18-22) in order to prevent the circuit from being susceptible to the radio wave and cause a spurious signal from occurring. Accordingly, Applicant submits that the invention of claim 8 is unobvious over AAPA, Kanda, and Saitoh.

CONCLUSION

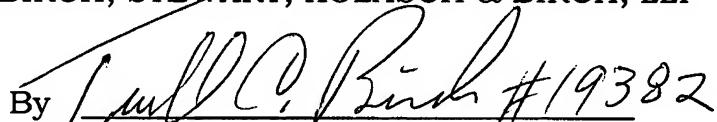
In view of the above amendments and remarks, reconsideration of the various rejections and allowance of claims 1-8 is respectfully requested.

Should the Examiner have any questions concerning this application, the Examiner is invited to contact Robert W. Downs (Reg. No. 48,222) at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Charles Gorenstein, Reg. No. 29,271

RWD
CG/RWD/kss
0033-0619P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

MARKED-UP COPY OF THE SPECIFICATION

Page 2, fourth paragraph, please amend to read as follows:

Referring to Fig. 10, a board 234 is attached to one side of a sheet metal 246 having a thickness of d_1 , and a board 236 is attached to the other side thereof. Local oscillation circuits 212 and 218 are mounted on boards 234 and 236, respectively. A [flame] frame 242 is attached to cover board 234. Whereas, board 236 is covered by a chassis 232.

Page 3, sixth paragraph, please amend to read as follows:

An object of the present invention is to provide a satellite broadcast receiver that can reduce as much as possible the level of a spurious signal generated when two local oscillation circuits are simultaneously operated, and that [can] down-converts a normal signal from a satellite without interference to send the signal to an indoor satellite broadcast receiver and the like.

Page 6, first paragraph, please amend to read as follows:

Referring to Fig. 2, boards 34 and 36 are attached to upper and lower surfaces of a chassis 32, respectively. Local oscillation circuits 12 and 18 are mounted on boards 34 and 36, respectively. A [flame] frame 42 is attached to cover board 34. A [flame] frame 46 is attached to cover board 36.

Page 6, fifth paragraph, please amend to read as follows:

Referring to Fig. 3, an input horn 52 is attached to chassis 32, and a board 34 is attached to an upper surface of chassis 32. [Flame] Frame 42 is attached to cover board 34. Board 36 is attached to a lower surface of chassis 32. [Flame] Frame 46 is attached to cover board 36. An F-type connector 54 is further attached to chassis 32 to output a signal to an indoor satellite broadcast receiver.